

3.23 Powers & Roots of Complex Numbers (odd answers)

1. $27i$

3. $\frac{-1}{2} + \frac{\sqrt{3}}{2}i$

5. $-16 + 16i$

7. $-119 - 120i$

$$z_1 = 2(\cos 10^\circ + i \sin 10^\circ)$$

9. $z_2 = 2(\cos 130^\circ + i \sin 130^\circ)$

$$z_3 = 2(\cos 250^\circ + i \sin 250^\circ)$$

11. $z_1 = 2, z_2 = 2i, z_3 = -2, z_4 = -2i$

13. $x_1 = \frac{1}{2} + \frac{\sqrt{3}}{2}i, x_2 = -1, x_3 = \frac{1}{2} - \frac{\sqrt{3}}{2}i,$